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ELDERLY AMERICANS

Nutrition Information Is  
Limited and Guidelines Are  
Lacking

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Mr. Chairman and Members of the Committee:

It is my pleasure to be here today to share the results of our work on elderly Americans. Our earlier report entitled Elderly Americans: Health, Housing, and Nutrition Gaps Between the Poor and Nonpoor addressed a series of questions about poor and near-poor elderly persons involving the issues of health, housing, and nutrition.<sup>1</sup> In our testimony today, we will present additional information on (1) whether our national nutrition surveys take into account the unique attributes and heterogeneity of the elderly population, and (2) the adequacy of criteria/guidelines available to determine the nutritional status of the elderly.

#### BACKGROUND

Before turning to the results of our work, I think it is important to discuss its context. While proper nutrition is a concern for all people, the elderly are the single largest demographic group at disproportionate risk of malnutrition. Many elderly people are at risk of nutrient deficiencies for reasons that include physiological decline, poor economic status, inadequate food intake, disease processes, and medical treatments. Certain diseases or disorders (for example, hypertension, diabetes, renal disease, arthritis, stroke, obesity, and cognitive impairment) and some medications (for example, beta/alpha blockers, digitalis, diuretics, and laxatives) may interfere with nutrient intake, digestion, absorption, metabolism, or excretion. Thus, nutrition is one of many important factors affecting the health and longevity of all, but in particular, low-income, "old-old," and minority older Americans.

Now let me turn to the results of our study. The first question you asked us to examine was whether our national nutrition surveys take into account the unique qualities and heterogeneity of the elderly population.

#### COVERAGE OF ELDERLY AMERICANS IN NATIONAL SURVEYS

The elderly population is unique in its degree of heterogeneity, in terms of both biologic and chronological age. Not only is there a great difference between 65- and 80-year-old people, but also there are major biologic differences within the 70- and 80- and 90-year-old age groups. Racial, ethnic, and gender differences are also present. In addition, there are healthy and active elderly individuals, as well as those who are

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<sup>1</sup>Elderly Americans: Health, Housing, and Nutrition Gaps Between the Poor and Nonpoor, GAO/PEMD-92-29 (Washington, D.C.: June 24, 1992).

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homebound and institutionalized. Finally, there are elderly persons who are experiencing diverse effects on their physical and mental functions as a result of taking multiple drugs. Thus, a national survey should contain data on the diet of a very heterogenous population.

Much of our knowledge about the nutritional intake of elderly Americans comes from two national surveys. The first is the Nationwide Food Consumption Survey (NFCS), which was conducted by the Human Nutrition Information Service of the Department of Agriculture from 1977 to 1978 and again from 1987 to 1988. NFCS addresses two aspects of food consumption: household food use, measured over 7 days, and individual food use (intake), measured over 3 days. The survey relies on three instruments for collecting data--one for household and two for individual consumption. These instruments combine structured in-person interviews and a self-administered questionnaire.

The second national survey is the National Health and Nutrition Examination Survey (NHANES), which is conducted by the National Center for Health Statistics of the Department of Health and Human Services. The first National Health and Nutrition Examination Survey (NHANES I) was conducted from 1971 through 1974 and included about 20,000 persons aged from 1 to 74 years. A longitudinal follow-up of that survey is ongoing from 1982-84. A second survey, NHANES II, was conducted from 1976 to 1980 and was followed by a special survey of three Hispanic populations in the United States, known as the Hispanic Health and Nutrition Examination Survey (HHANES), in 1982-84. A third survey, NHANES III, is currently being conducted, although the collection of its data will not be completed until 1994.

NHANES is conducted to monitor the overall health and nutritional status of the U.S. population through health and medical histories, dietary interviews, physical examinations, and laboratory measurements. Information is thus obtained about many medical conditions, including nutrition-related disorders. Among these latter are obesity, growth retardation, anemia, diabetes, atherosclerotic cardiovascular diseases, hypertension, and deficiencies of vitamins and minerals.

Both NFCS and NHANES, however, have limitations--some of which are individual and others that they share in common.

#### Limitations Common to Both NFCS and NHANES

Neither NFCS nor NHANES provides a comprehensive picture of the nutritional intake of the elderly. These national surveys assess the nutritional intake of the population as a whole, and therefore data regarding the elderly in general--and elderly subpopulations in particular--are limited in several ways. First, neither NHANES I nor NHANES II surveyed persons over the

age of 74, thereby overlooking a rapidly growing portion of the elderly population at potentially high risk for nutritional problems. To correct this situation, NHANES III has been designed to have no upper age limit. It both includes an oversample of older persons and is planned as a longitudinal study. However, while NHANES III does include persons over the age of 74 in its sample, its data will not be available for a few years. A second limitation on the extent to which NFCS and NHANES I and II can define the nutritional intake of elderly subpopulations is their small sample sizes. Finally, these surveys are limited by their lack of information on the institutionalized elderly, a population that may experience highly detrimental effects from poor nutrition.

#### Limitations of NFCS

As documented in another GAO report, methodological problems, deviations from the survey's original design, and lax controls over the collection and processing of the results all raise doubts about the quality and usefulness of the data in the 1987-88 NFCS.<sup>2</sup> For example, only 34 percent of the households in the basic sample provided individual intake data--a response rate well below normal professional standards. It thus is questionable whether the data are representative of the U.S. population. Our report also found that the survey's design may have contributed to this low-response problem. Specifically, a complex and lengthy set of questions was used, which imposed a burden on respondents. For the average household, the interview alone took about 3 hours. Nevertheless, despite the time investment the survey required, household members were paid only \$2 each to participate. In addition, in April 1991, an expert panel, convened by the Department of Agriculture's Human Nutrition Information Service to assess the integrity of the 1987-88 data, concluded that the data may in fact represent biased estimates of the nation's dietary intake.

#### Limitations of NHANES

Although NHANES was designed to examine the nutrition and health status of Americans, there are some limitations in the use of NHANES for studying the interaction between diet and disease. For example, NHANES provides only cross-sectional data, which are not suitable for studying causal relationships between nutrition and disease. Longitudinal studies--that is, studies that collect data on the same individuals over a period of time--are needed to establish causality. Changes made to provide a longitudinal component of NHANES III will strengthen the data if the

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<sup>2</sup>See Nutrition Monitoring: Mismanagement of Nutrition Survey Has Resulted in Questionable Data, GAO/RCED-91-117 (Washington, D.C.: July 26, 1991).

researchers are able to track the participants and collect the needed data at different times.

### Summary

Unlike other age groups, the elderly are characterized by an extreme heterogeneity. Due partly to their wide age range, people over age 65 vary enormously in their states of health, mobility, cognitive impairments, and nutritional requirements. Because our national surveys are characterized by inadequate sample sizes for the elderly, poor response rates, and survey instruments designed for younger populations, they do not adequately take into account the unique attributes and heterogeneity of the elderly population. The National Nutrition Monitoring and Related Research Act of 1990 (Public Law 101-445) mandates that the Department of Health and Human Services and the Department of Agriculture establish a comprehensive National Nutrition Monitoring and Related Research Program. We recognize that both Departments are currently planning to address these issues; however, at this time, we cannot comment on what the outcome of their efforts might be.

### CRITERIA/GUIDELINES AVAILABLE TO DETERMINE THE NUTRITIONAL STATUS OF THE ELDERLY

You also asked us to examine what criteria or guidelines are available to determine the nutritional status of the elderly. Nutritional status is defined as those aspects of an individual's health condition that are influenced by intake and utilization of nutrients and other substances (such as dietary fiber or cholesterol) that have health effects.

At present, there are no definitive guidelines concerning the actual nutritional needs of the elderly. Traditional nutritional research has tended to concentrate on the needs of younger adults, assuming that principles learned about this population would transfer to the elderly. However, as researchers learn more about nutrition, as well as more about the aging process, it is becoming increasingly clear that the nutritional needs of the elderly are distinct from those of younger adults. Moreover, the diversity of the elderly population suggests that the nutritional needs within this population are also diverse. It is likely, for instance, that the nutritional needs of a 65-year-old are very different from those of an 85-year-old. Nevertheless, these new insights concerning the distinct and diverse nutritional needs of the elderly population have yet to be translated into specific and standard guidelines for meeting these needs.

A common guideline regarding the nutritional needs of infants, children, and adults is recommended dietary allowance (RDA). RDAs are defined as "the levels of intake of essential

nutrients that, on the basis of scientific knowledge, are judged by the Food and Nutrition Board to be adequate to meet the known nutrient needs of practically all healthy persons."<sup>3</sup> There are, however, critical limitations on the use of RDA as an index of nutritional needs for the elderly. First, the highest age category of RDA is for persons 51 years old; thus, RDAs fail to differentiate between younger and older elderly persons, even though their physiological differences can be dramatic. Second, RDAs are based on the nutritional needs of healthy adults, thereby failing to provide nutritional standards for the large number of elderly persons who experience acute or chronic medical conditions. Third, RDAs do not address the issue of how pharmaceutical use--which is highly prevalent in the elderly population--interacts with nutritional intake to affect actual nutritional status.

#### SUMMARY OF NUTRITION AND ELDERLY PERSONS

There is wide consensus that elderly persons are at risk for having inadequate nutritional intake. However, the national nutrition surveys are limited in numerous ways, and certainly their scope must be widened to include more complete data on elderly nutrition before definitive conclusions can be drawn about the nutritional intake of the elderly population.

Furthermore, there are no adequate guidelines as to what the actual nutritional needs of the elderly are. Current guidelines do not specifically address the needs of persons aged 65 and over, nor do they address the particular needs of elderly subpopulations, such as those persons who are in the 75 and older age bracket. The available data with regard to people over 50 indicate that RDAs for this group should not be based on chronological age alone, but rather on a combination of factors that include chronological age, activity, presence of chronic disease, and general health status. Improvements are needed in both nutrition data and nutritional guidelines before definitive conclusions can be drawn about the elderly population's nutritional status.

Mr. Chairman, this concludes my remarks. I would be happy to answer any questions you or Members of the Committee may have.

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<sup>3</sup>Subcommittee on the Tenth Edition of the RDAs, Food and Nutrition Board, Commission on Life Sciences, National Research Council, Recommended Dietary Allowances, 10th Edition (Washington, D.C.: National Academy Press, 1989), p. 1.